Federal Aviation Administration

Memorandum

Date: MAY 19 2015

To: Elizabeth L. Ray, Vice President, Mission Support Services, AJV-0

From: Jodi S. McCarthy, Director, Airspace Services, AJV-1

Subject: Finding of No Significant Impact (FONSI) and Record of Decision (ROD) For the Charlotte Optimization of the Airspace and Procedures in the Metroplex (CLT OAPM)

Airspace Services has completed the attached Finding of No Significant Impact (FONSI) and Record of Decision (ROD) for the Environmental Assessment (EA) of the Charlotte Optimization of Airspace and Procedures in the Metroplex (OAPM).

Please find attached, the Executive Summary Briefing which describes the Charlotte OAPM Project and related key environmental issues.

Also enclosed, is the FONSI/ROD which serves as the decision document for the Charlotte OAPM Project. Please sign upon review and approval to begin implementation.

Attachments:

Executive Summary Briefing
FONSI/ROD

Federal Aviation Administration

Executive Summary Briefing to Mission Support Services
For the Charlotte Optimization of Airspace Procedures in the Metroplex
Environmental Assessment and Finding of No Significant Impact/Record of Decision
(CLT OAPM (Metroplex) EA FONSI/ROD)

Project Background/Talking Points

- The purpose of the proposed CLT OAPM (Metroplex) project is to improve the efficiency of the national airspace system in the Charlotte Metroplex by optimizing aircraft arrival and departure procedures at Charlotte/Douglas International Airport (CLT) and twelve surrounding satellite airports.

- The proposed project would involve changes in aircraft flight paths and altitudes in certain areas. Specifically, the FAA proposes to publish and implement optimized area navigation (RNAV) standard arrival (STARs) and instrument departure (SIDs) procedures, serving air traffic flows into and out of airports in the Charlotte Metroplex.

- The Proposed Action includes 46 procedures.
  - 13 new RNAV STARs
  - 15 new RNAV SIDs
  - 11 conventional STARs
  - 7 conventional SIDs

- The proposed action would not require any ground disturbance or increase the number of aircraft operations within the Charlotte Metroplex airspace area.

Environmental Process

- The FAA has sought to determine if the project can achieve its intended goals with no significant environmental impact by conducting an Environmental Assessment (EA) in accordance with the National Environmental Policy Actions (NEPA) and FAA Order 1050.1E, Environmental Impacts: Policies and Procedures. In doing so, the FAA has prepared an environmental assessment (EA). This EA was made available to the public on December 5, 2014, with notifications placed in local newspapers and letters sent to local officials, agencies, and interested parties. FAA began accepting comments for a 60-day period beginning December 5, 2014, and ending February 2, 2015. Additionally, three public meetings/workshops were held on December 9 and 10, 2014, and January 22, 2015.

- Because no significant changes to the EA were required as a result of the comments received, in accordance with Council on Environmental Quality (CEQ) guidance, FAA is not issuing a Final EA. Instead, FAA is issuing an Errata Sheet that contains minor changes to the EA. The Errata Sheet will be attached to the FONSI/ROD, as well as a table of the comments received and FAA's disposition of those comments.

Summary of the Findings

- Based on the analysis prepared for the EA, implementation of the Proposed Action would not result in any significant or reportable impacts to the human environment.

- The Proposed Action would not result in a significant noise impact on population exposed to DNL 65 dB or higher levels under the Proposed Action, nor would there be reportable noise increases of DNL 3.0 dB in areas exposed to DNL 60 dB–65 dB or DNL 5 dB in areas exposed to DNL 45 dB–60 dB.

  - The Proposed Action would not result in a significant noise exposure impact of day-night average sound level (DNL) 1.5 decibels (dB) or higher at or above DNL 65 dB for people, historic properties, parks, or other resources covered under applicable environmental impact categories.

  - The Proposed Action would not result in reportable DNL increases of 3 dB or higher in areas exposed to DNL 60 dB to 65 dB noise levels, or DNL increases of 5 dB or higher in areas exposed to DNL 45 dB to 60 dB noise levels.

- When compared to the No Action Alternative, the Proposed Action would result in a fuel burn reduction of approximately 12 metric tons (MT) in 2015 (0.79 percent decrease) and a fuel burn reduction of approximately 14 MT in 2020 (0.77 percent increase). As fuel burn would decrease under the Proposed Action, no significant impacts to energy supply would be anticipated. Given these relatively small increases (less than 1%), when compared to the No Action Alternative, the Proposed Action is not expected to result in impacts to energy, climate, or air quality emissions.

Publication/Implementation Plan/Schedule

- The CLT OAPM (Metroplex) procedures are planned to be implemented in a phased approach. While the production schedule is subject to change, the current schedule calls for the publication of the procedures to begin on June 25, 2015, and the publication of the procedures to occur over five publishing cycles beginning August 20, 2015.

Political Implications

- FAA does not expect political implications related to issuing the FONSI/ROD. There was one congressional inquiry made during the NEPA process before the draft EA was released. It asked that a public meeting be held in the Charlotte area for the Metroplex project. If the ROD is delayed, procedure publication may be delayed.

Outstanding Issues and Resolutions

- There are no outstanding environmental issues at the time this brief was drafted.

Summary of Coordination/Public Outreach

- Agency/Public coordination was conducted as follows:

  - In June 2014 an early notification letter sent and the Notice of Intent was published in two major newspaper announcing preparation of an EA.
  - Developed CLT OAPM (Metroplex) EA pages on the Metroplex Environmental website providing an overview of the project, and optimized the website using key terms so the site would show up first in Google search results.
  - Provided a project email account link on the website contact page for use by the general public to provide comments or ask questions throughout the process.
  - On December 5, 2014, the Notice of Availability for the Draft EA was sent to agencies and elected representatives and published in two major newspapers. It included reference to the OAPM Environmental website where the entire document was available to download: (http://www.metroplexenvironmental.com/clt_metroplex/clt_docs.html).
  - Posted the entire EA and related technical reports on the CLT OAPM (Metroplex) EA website.
  - Consulted with appropriate State Historic Preservation Offices in compliance with the requirements of Section 106 of the National Historic Preservation Act.
  - The FAA hosted three (3) public workshops in the CLT Metroplex General Study Area on December 9 and 10, 2014, and January 22, 2015. FAA representatives were available at each public workshop to help interested attendees better understand the project. The FAA received 45 comments by private citizens and groups, elected officials, municipalities, local, State, and Federal agencies.

- The EA FONSI/ROD and Errata will be made available online on the CLT OAPM (Metroplex) EA website at: http://www.metroplexenvironmental.com/clt_metroplex/clt_introduction.html

Coordination Activities/Plan with Public Affairs

- The Eastern Service Center Environmental Specialist has coordinated with Public Affairs throughout the process. Public Affairs assisted in reviewing letters and legal notices, and was made aware of the public coordination efforts prior to implementing them. Public Affairs also attended the three public workshops and handled all media releases and inquiries.

- A Legal Sufficiency Determination for the FONSI/ROD and Errata was received from AGC-600 on May 12, 2015.

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Federal Aviation Administration

Finding of No Significant Impact (FONSI)
and
Record of Decision (ROD)

For the Charlotte Optimization of the Airspace and Procedures in the Metroplex (CLT OAPM)

May 2015

I. INTRODUCTION

This document serves as the Federal Aviation Administration's (FAA) Finding of No Significant Impact and Record of Decision (FONSI/ROD) for the Environmental Assessment for the *Charlotte Optimization of Airspace and Procedures in the Metroplex* (CLT OAPM) Project, dated December 2014, attached hereto and incorporated by reference. The FONSI/ROD has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. Section 4321 et seq.); implementing regulations issued by the Council on Environmental Quality (CEQ) (40 CFR parts 1500-1508); and FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, effective March 20, 2006 ("FAA Order 1050.1E"). This FONSI/ROD is based on the information and analysis contained in the December 2014 Environmental Assessment (EA), and in its *Public Comment Letters and Responses to Comments and Environmental Assessment Errata*, dated May 2015, attached hereto and incorporated by reference. This FONSI/ROD is also used by the FAA to demonstrate and document its compliance with the several procedural and substantive requirements of aeronautical, environmental, programmatic, and other statutes and regulations that apply to FAA decisions on proposed actions.

Furthermore, this FONSI/ROD:

- Documents the FAA's finding that the CLT OAPM Project will not have significant environmental impacts and explains the basis for that finding; and,
- Approves certain Federal actions associated with the implementation of the Proposed Action. Implementation of the Proposed Action will result in no airport-related development, land acquisition, construction, or other ground disturbance activities.

In approving the CLT OAPM Project, the FAA has considered 49 U.S.C. § 40101(d)(4), which gives the FAA various responsibilities and holds it accountable for controlling the use of navigable airspace and regulating civil and military operations in that airspace in the interest of safety and efficiency. Additionally, consideration has been given to 49 U.S.C. § 40103(b)(2), which authorizes and directs the FAA Administrator to prescribe air traffic rules and regulations governing the flight of aircraft, for the navigation, protection, and identification of aircraft, and the protection of persons and property on the ground, and for the efficient utilization of the navigable airspace, including rules as to safe altitudes of flight and rules for the prevention of collisions between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects.

Furthermore, the FAA has given careful consideration to the aviation safety and operational objectives of the CLT OAPM Project in light of the various aeronautical factors and judgments presented. The FAA identified the need to enhance efficiency of the national air transportation system and the potential environmental impacts of the project.

II. BACKGROUND

The FAA is in the process of implementing the Next Generation Air Transportation System (NextGen), the FAA's plan to modernize the National Airspace System (NAS) through 2025. NextGen is a complex program intended to develop and implement new technologies, while integrating existing technologies and adapting the air traffic management system to a new way of operating. NextGen represents an evolution from an air traffic control system that is a primarily ground-based system to a system that is satellite-based and will allow the FAA to guide and track air traffic more precisely and efficiently. To achieve NextGen goals, the FAA is implementing new Area Navigation (RNAV) and Required Navigation Performance (RNP) air traffic routes and instrument procedures (RNAV Standard Instrument Departures (SIDs), Standard Terminal Arrival Routes (STARs), and Standard Instrument Approach Procedures (SIAPs)) around the country that use emerging technologies and aircraft navigation capabilities. The implementation of RNAV and RNP procedures enables the use of other Performance Based Navigation (PBN) technology in the NAS, and facilitates more efficient procedures such as Optimized Profile Descents (OPD).

The Metroplex Initiative is considered a mid-term implementation step in the overall process of transitioning to the NextGen system. The FAA intends to design and implement RNAV procedures that will take advantage of the technology readily available in the majority of aircraft as part of the Metroplex initiative. The Metroplex initiative specifically addresses airspace congestion, airports in close geographical proximity, and other limiting factors that reduce efficiency in busy Metroplex airspace. Efficiency is improved by expanding the implementation of RNAV-based standard instrument procedures and connecting the routes defined by the standard instrument procedures to high and low altitude RNAV routes.

Efficiency would also be increased by taking advantage of RNAV to maximize the use of the limited airspace in congested Metroplex environments.

The CLT OAPM Project is intended to address specific issues related to the efficient flow of traffic in and out of the Charlotte Metroplex. A "Metroplex" is a geographic area that includes several commercial and general aviation airports in close proximity serving a large metropolitan area.

III. PROPOSED ACTION

The Proposed Action consists of development of standard air traffic procedures to enhance efficient handling and movement of air traffic, while maintaining safety, into and out of the Charlotte Metroplex airspace. The Proposed Action includes a total of 46 procedures:

- 13 new RNAV STARs
- 15 new RNAV SIDs
- 5 new conventional STARS
- 3 new conventional SIDS
- 6 existing conventional STARs
- 4 existing conventional SIDs

The Proposed Action considered in this study would include the implementation of optimized RNAV SID and STAR procedures that would improve existing procedures. The primary components of the Proposed Action are, to the extent possible, redesign standard instrument arrival and departure procedures to more efficiently serve the CLT OAPM Airports and to (1) Improve the flexibility in transitioning traffic between enroute and terminal area airspace and between terminal area airspace and the runways; (2) Improve the segregation of arrivals and departures in terminal area and enroute airspace; and, (3) Improve the predictability in transitioning traffic between enroute and terminal area airspace and between terminal area airspace and the runways. The optimized RNAV procedures would also provide vertical navigation, allowing the aircraft to climb to or descend from cruise altitude into the Charlotte Metroplex area with reduced pilot-controller communications and fewer inefficient level flight segments. Chapter 3 of the EA provides details on the Proposed Action.

Implementation of the Proposed Action would not require any ground disturbance or development of facilities, nor would it require local or state action. The Proposed Action consists only of procedural changes intended to improve operational efficiency, increase flight path predictability, and reduce required controller-pilot voice communication. Therefore, implementation of the Proposed Action would not increase the number of aircraft operations in the Charlotte Metroplex airspace when compared to the No Action Alternative. The target date for starting implementation of the CLT OAPM procedures is on or after August 20, 2015.

IV. PURPOSE AND NEED FOR THE PROPOSED ACTION

Chapter 2 of the EA documents the need (problem) and purpose (goal) for the airspace and procedure optimization in the Charlotte Metroplex area. The CLT OAPM Project consisted of a Study Team phase, which analyzed the Charlotte Metroplex operational challenges and explored opportunities to optimize air traffic procedures therein. CLT airspace is characterized by a four-corner post design, with arrivals routed over corner posts located to

the northwest, northeast, southwest, and southeast. Departures are routed to the north, south, east, and west. These issues include a current airspace configuration that prevents the implementation of OPDs for arrivals from each corner post. Similarly, departing aircraft experience periods of level-off in both terminal and enroute airspace due to the current airspace configuration. In addition, there are an insufficient number of transitions for existing Standard Terminal Arrival Routes (STARs) and arrivals from the northwest corner-post require greater support. There are also an insufficient number of Standard Instrument Departures (SIDs). The current SIDs are inefficiently designed and require earlier route divergence to increase departure throughput. As a result of these inefficiencies, T-Routes[1] that traverse the Charlotte Metroplex are not being effectively utilized by itinerant aircraft. The Study Team materials reflect three key factors as causes of inefficiencies in the Charlotte Metroplex:

- Lack of flexibility in the efficient transfer of traffic between the enroute and terminal area airspace
- Complex converging and dependent route and procedure interactions
- Lack of predictability in the efficient transfer of traffic between enroute and terminal area airspace

These three factors demonstrate the need for the Proposed Action.

The purpose of the Proposed Action is to take advantage of the benefits of PBN by optimizing RNAV procedures that will help improve the efficiency of the airspace in the Charlotte Metroplex. The Proposed Action would address the three key factors causing the inefficiencies in the airspace and improve the efficiency of air traffic operations through improved flexibility in transitioning aircraft, enhanced segregation between aircraft, and improving the predictability of air traffic flow. Optimizing RNAV procedures will also comply with direction issued by Congress in the Modernization and Reform Act of 2012.

V. ALTERNATIVES

The following provides a summary of the alternatives development process and alternatives considered. Further details are available in Chapter 3 of the EA.

Identification and Evaluation of Potential Alternatives - In February 2011, the CLT OAPM Study Team began work to define operational problems in the Charlotte Metroplex and to identify potential solutions. The Study Team included experts on the Air Traffic Control (ATC) system for the Charlotte Metroplex. The Study Team's work was completed following a multi-step process that included identifying and characterizing existing issues, proposing conceptual designs and airspace changes to address these issues, and identifying the expected benefits and risks of the conceptual designs. The Study Team held a series of outreach meetings with local facilities (e.g., ATC), airspace users (e.g., pilots), and aviation industry representatives to learn more about the challenges of operating in the Charlotte Metroplex. These meetings helped identify operational challenges associated with existing procedures and potential solutions that would increase efficiency in the

[1]T-routes are low-altitude RNAV routes established to allow aircraft to navigate through and around busy terminal airspace without requiring ATC to issue vectors to avoid potential conflicting operations.

Charlotte Metroplex airspace. The Study Team identified several PBN solutions that could result in increased efficiency in the Charlotte Metroplex. The modifications proposed were conceptual in nature, and did not include a detailed technical assessment, which was reserved for the Design and Implementation (D&I) Team to conduct.

Following completion of the Study Team's Final Report in May 2011, the D&I Team began work on the procedure designs. First, the Study Team proposals were prioritized based on complexity, interdependencies with other procedures, and degree of potential benefit to the Metroplex. Second, the D&I Team divided into workgroups to further develop and refine the Study Team proposals into preliminary designs. Finally, the preliminary designs were brought to the whole D&I Team for review and modification, if necessary. In developing the proposed procedures, the D&I Team was responsible for following regulatory and technical guidance as well as meeting criteria and standards in three general categories: RNAV design criteria and ATC regulatory requirements, operational criteria, and safety factors.

To ensure that procedures included in the Proposed Action were viable, the D&I Team undertook validation exercises that further refined the procedures. The D&I Team relied on stakeholder input, design solution tools (e.g., design and testing software), and the criteria described above to meet several final design milestones. Many procedures included in the Proposed Action have undergone several iterations as they were refined to meet safety and efficiency requirements and represent the final version of the procedures considered. For example, the proposed FILPZ ONE STAR represents the fourth version of that procedure and the proposed JOJJO ONE SID is the third version of that procedure. The combined final procedure designs have been brought forward in this EA as the Proposed Action alternative.

Alternatives Analyzed in the EA – In addition to the Proposed Action (described above), the EA also analyzed the No Action Alternative. Under the No Action Alternative, the FAA would maintain 32 existing arrival and departure procedures for the Charlotte Metroplex. The 32 currently published SIDs and STARs in the Charlotte Metroplex serving the CLT OAPM Study Airports that comprise the No Action Alternative include:

- 7 RNAV STARs
- 7 RNAV SIDs
- 9 conventional SIDs
- 9 conventional STARs

The existing conventional and RNAV arrival and departure procedures would remain as is, subject to minor, periodic reviews and revisions in response to changes in the operational environment (i.e., magnetic variation changes; obstruction surveys, and changes in FAA ATC regulations). The No Action Alternative would not implement the specific procedures designed as part of the CLT OAPM Project.

The No Action Alternative would not meet the purpose and need for the project. It would not improve the efficiency of the airspace nor address any of the three key causal factors for airspace inefficiency. Furthermore, the No Action Alternative would not meet the congressional mandate to implement additional RNAV procedures.

VI. AFFECTED ENVIRONMENT

The General Study Area for this project includes the geographic area in which natural resources and the human environment are potentially affected by the Proposed Action and its reasonable alternative. Paragraph 14.5e of Appendix A to FAA Order 1050.1E, requires consideration of impacts of airspace actions from the surface to 10,000 feet AGL if the study area is larger than the immediate area around an airport or involves more than one airport. Furthermore, policy guidance issued by the FAA Program Director for Air Traffic Airspace Management states that for air traffic project environmental analyses noise impacts should be evaluated for proposed changes in arrival procedures between 3,000 and 7,000 feet AGL and departure procedures between 3,000 and 10,000 feet AGL for large civil jet aircraft weighing over 75,000 pounds.

In developing the General Study Area, the FAA collected radar data from flight paths in the Charlotte Metroplex. The General Study Area was designed to capture all flight paths identified in the radar data collected for the preparation of the EA as well as the designed Proposed Action routes out to the point at which 95 percent of aircraft are at or above 10,000 feet AGL for departures and at or above 7,000 feet AGL for arrivals, accounting for the terrain in and around the Charlotte Metroplex. The lateral extent of the General Study Area was concisely defined to focus on areas of traffic flow.

The resulting General Study Area is depicted on Exhibit 4-1 in the EA and includes all or portions of 58 counties in three states (North Carolina, South Carolina, and Virginia). Detailed information regarding the affected environment with respect to each relevant impact category is presented in Chapter 4 of the EA.

The CLT OAPM General Study Area encompasses one major airport:

- Charlotte-Douglas International Airport (CLT)

The CLT OAPM General Study Area also includes the following satellite airports:

- Charlotte-Monroe Executive Airport (EQY)
- Greenville Downtown Airport (GMU)
- Piedmont Triad International Airport (Greensboro) (GSO)
- Greenville Spartanburg International Airport (GSP)
- Donaldson Center Airport (GYH)
- Hickory Regional Airport (HKY)
- Smith Reynolds Airport (INT)
- Concord Regional Airport (JQF)
- Rowan County Airport (RUQ)
- Spartanburg Downtown Memorial Airport (SPA)
- Statesville Regional Airport (SVH)
- Rock Hill (York Co) Airport-Bryant Field (UZA)

The EA refers to the one major and twelve satellite airports collectively as the Study Airports.

VII. ENVIRONMENTAL CONSEQUENCES

The FAA analyzed the potential environmental impacts that could result from implementation of the Proposed Action as well as the impacts associated with the No Action

Alternative on all relevant environmental impact categories specified in FAA Order 1050.1E. The FAA evaluated both alternatives for conditions in 2015, the first year of implementation of the optimized air traffic procedures under the Proposed Action, and 2020, five years after expected implementation of the Proposed Action.

The Proposed Action would not involve land acquisition, physical disturbance, or construction activities and, therefore, would not affect certain environmental impact categories. The following environmental resource categories would remain unaffected because either the resource does not exist within the General Study Area or it would not be affected by the activities associated with the Proposed Action. The unaffected resource categories or sub-categories include:

- Coastal Resources
- Construction Impacts
- Farmlands
- Fish, Wildlife, and Plants (Fish and Plants sub-categories only)
- Floodplains
- Hazardous Materials
- Pollution Prevention and Solid Waste
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply (Natural Resources sub-category only)
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks (Socioeconomic Impacts and Children's Environmental Health and Safety Risks sub-categories only)
- Water Quality
- Wetlands
- Wild and Scenic Rivers

The Proposed Action would not cause changes in patterns of population movement or growth, public service demands, or business and economic activity. In addition, the Proposed Action does not involve construction or other ground disturbing activities that would involve the relocation of people or businesses. Furthermore, the Proposed Action does not include the construction of airport facilities that would result in or induce an increase in operational capacity. Thus, the Proposed Action would not result in Secondary or Induced impacts.

Those environmental impact categories that could potentially be affected by the Proposed Action are discussed further below.

Noise

As required by FAA Order 1050.1E, the approved and recommended Noise Integrated Routing System (NIRS) was used to model the noise impacts for the CLT OAPM Project because the project involves a study area larger than the immediate vicinity of an airport, incorporates more than one airport, and includes actions above 3,000 feet above ground level (AGL). FAA also applied its criteria of significance, an increase of 1.5 dB DNL[2] or

[2] DNL is the Day Night Average Sound Level. It is a single value representing the aircraft sound level over a 24-hour period. To represent the greater annoyance caused by a noise at night, the DNL metric includes a 10-decibel penalty weighting for noise occurring between 1:00 pm and 6:59 am.

more on any noise sensitive area within areas exposed to 65 dB DNL or higher, to determine whether the project would result in a significant noise impact. Noise was analyzed for both the Proposed Action and the No Action Alternative during the year in which implementation of the Proposed Action would be initiated (2015) and a five-year look-ahead (2020).

The NIRS model computed DNL exposure values at three sets of data points throughout the General Study Area:

1. United States Census Bureau population census block centroids (center point of a census block)
2. Unique points representing certain specific cultural resources and areas potentially protected under Section 4(f) of the Department of Transportation Act (DOT Act) (49 U.S.C. § 303(c)), and historic properties protected under Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. § 470 *et seq.*);
3. A uniform grid covering the General Study Area (using 0.5 nautical mile spacing) to document aircraft DNL exposure levels at potential noise sensitive locations that were not otherwise identified.

The results identified the differences in DNL noise exposure between the two alternatives (Proposed Action compared to No Action Alternative) to determine if implementing the Proposed Action would result in significant noise impacts. The analysis also identified any DNL increase of 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB and any DNL increase of 5 dB or higher in areas exposed to noise between DNL 45 dB and 60 dB. While the EA refers to such increases as a "reportable noise increase," they are not significant. The results of the NIRS modeling indicated that:

1. The Proposed Action would <u>not</u> result in a DNL 1.5 dB or higher increase in noise-sensitive areas exposed to aircraft noise at or above DNL 65 dB
2. The Proposed Action would <u>not</u> result in DNL increases of 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB
3. The Proposed Action would <u>not</u> result in a DNL increase of 5 dB or higher in areas exposed to noise between DNL 45 dB and 60 dB.

Thus, the Proposed Action would <u>not</u> result in significant noise impacts. Accordingly, no mitigation is required per FAA Order 1050.1E, Appendix A, paragraph 14.4c.

<u>Compatible Land Use</u>

The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts. If the noise analysis concludes that there is no significant impact, a similar conclusion usually may be drawn with respect to compatible land use. Because the Proposed Action is not expected to have significant noise impacts (as measured by changes in noise exposure at populated census block centroids) in 2015 and 2020, there would be no compatible land use impacts.

<u>Department of Transportation Act, Section 4(f)</u>

FAA identified resources within the General Study Area that had the potential to qualify for protection under Section 4(f) of the DOT Act. No land acquisition, construction, or other ground disturbance activities would occur under the Proposed Action; therefore, the

Proposed Action would not physically use any potential Section 4(f) resources. Consequently, the focus of the evaluation of potential Section 4(f) resources was adverse impacts that have the potential to result in a constructive use.

As noted under "Noise" above, the FAA's noise modeling included areas potentially protected under Section 4(f). However, no potential Section 4(f) resources located in areas exposed to DNL 65 dB or higher would experience a significant increase of DNL 1.5 dB or higher. Furthermore, the Proposed Action would not cause reportable increases of DNL 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB or DNL 5 dB or higher in areas exposed to noise between DNL 45 dB and DNL 60 dB.

Under FAA Order 1050.1E, a significant impact would occur when a proposed action either involves more than a minimal physical use of a Section 4(f) resource or would result in a "constructive use" substantially impairing the 4(f) property. Because the Proposed Action would not result in either a physical or constructive use of Section 4(f) resources, there would be no significant impacts on those resources.

Historical and Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) requires the FAA to consider the effects of its undertakings on properties listed or eligible for listing in the National Register of Historic Places (NRHP). In assessing whether an undertaking, such as the Proposed Action, affects a property listed or eligible for listing on the NRHP, FAA must consider both direct and indirect effects. Direct effects include the physical removal or alteration of an historic resource. Indirect effects include changes in the environment of the historic resource that could substantially alter the characteristics that made it eligible for listing on the NRHP. Such changes could include changes in noise exposure and visual impacts.

To assess the potential indirect effects of the Proposed Action on historic resources, an area of potential effects (APE) was defined. Federal regulations define the APE as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE for the Charlotte Metroplex was defined as being contiguous with the General Study Area. Historic resources were identified within the General Study Area and their locations are shown on Exhibit 4-5 in Chapter 4 of the EA. One tribal property was identified within the General Study Area.

No land acquisition, construction, or other ground disturbance activities would occur under the Proposed Action; therefore, the Proposed Action would not directly (i.e., physically) affect any historical, architectural, archaeological, or cultural resources. The assessment focused on the potential for indirect adverse effects to historic and cultural resources that may result from changes in air traffic routes, such as aircraft noise and visual impacts. Based on the modeled results for the unique grids and General Study Area uniform grids, no historically, architecturally or culturally significant properties located in the area exposed to DNL 65 dB or higher would experience a significant increase of DNL 1.5 dB or higher. Furthermore, the Proposed Action would not cause reportable noise increases of DNL 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB or DNL 5 dB or higher in areas exposed to noise between DNL 45 dB and DNL 60 dB.

According to FAA Order 1050.1E, Appendix A, the visual sight of aircraft, aircraft contrails, or aircraft lights at night, particularly at a distance that is not normally intrusive, should not

be assumed to constitute an adverse impact. Changes in aircraft routes associated with the Proposed Action would generally occur at altitudes above 3,000 feet AGL; therefore, the visual sight of aircraft and aircraft lights would not be considered intrusive. Consequently, the Proposed Action would not result in significant visual impacts. Therefore, the Proposed Action would not adversely affect the property's historic, architectural, or cultural significance through introduction of a visual feature that would diminish the integrity of the setting.

The FAA determined that under the meaning of 36 CFR, Parks, Forests, and Public Property, section 800.5(a), Protection of Historic Properties, the Proposed Action would not have an "adverse effect" on historic resources. Additionally, in accordance with the Section 106 of the NHPA, written concurrence of FAA's determination was obtained from the North Carolina, South Carolina, and Virginia State Historic Preservation Officers' (SHPOs) with both the definition of the APE and the finding of no adverse effects. The concurrence letters can be found in the attached document, *Public Comment Letters and Responses to Comments and Environmental Assessment Errata*, Appendix A, *Agency Coordination, Agency Consultation, and Public Involvement*.

Wildlife (Avian and Bat Species)

The greatest potential for impacts to wildlife species related to air traffic procedure changes would result from wildlife strikes on avian and bat species at altitudes below 3,000 feet AGL. The FAA's Wildlife Strike Database provides strike information that is reportable by airport, including species struck, height of strike, and type and extent of aircraft damage. Table 5-4 in Chapter 5 of the EA provides a summary of wildlife strikes reported by Study Airport between 1990 and April 2014. In total, 1,315 records provide strike altitude for incidents involving birds and bats. Of these, a total of 1,164 reported strikes (89 percent of all strikes) occurred at altitudes below 3,000 feet. The decline in the number of strikes reported above 3,000 feet AGL indicates that there is less likelihood of bird/bat strikes at these altitudes. Under the Proposed Action, the majority of changes to proposed flight paths would occur above 3,000 feet AGL and no significant changes to arrival and departure corridors below 3,000 feet AGL would be expected. Therefore, there would be no significant impacts to avian and bat species under the Proposed Action compared with the No Action Alternative. Accordingly, the FAA has determined that the Proposed Action is not likely to adversely affect any federally-listed species for 2015 or 2020.

Environmental Justice

Under the Proposed Action, no areas within the General Study Area would experience a change in noise exposure or other relevant impact category, (such as air quality, hazardous materials, and water quality) that would exceed applicable thresholds of significance. The Proposed Action would not affect low income or minority populations at a disproportionately higher level than other population segments. Therefore, no adverse direct or indirect effects would occur to any environmental justice populations within the General Study Area under the Proposed Action for 2015 and 2020.

Energy Supply

Under the Proposed Action, the optimized air traffic routes would improve the efficiency of air traffic routes and operations, including continuous climb-outs and optimized descents,

where possible. Aircraft fuel consumption would decrease slightly compared with the No Action Alternative.

Aircraft fuel burn is considered a proxy for determining whether the Proposed Action would have a measurable effect on local energy supplies when compared with the No Action Alternative. The FAA's NIRS model calculates aircraft-related fuel burn as an output along with calculating aircraft noise exposure. NIRS modeling indicated that slightly less fuel would be burned under the Proposed Action in comparison with the No Action Alternative (a decrease of 12 metric tons (MT) or 0.79 percent in the first year of implementation (2015) and 13.7 MT or 0.77 percent in the five-year look-ahead year (2020). As fuel burn would decrease under the Proposed Action, no significant impacts to energy supply would be anticipated.

Air Quality

The fuel burn analysis indicates that under the Proposed Action there would be a decrease in fuel burn (0.79 percent in 2015 and 0.77 percent in 2020) when compared to the No Action Alternative. This would result in a corresponding decrease in emissions and ground concentrations. Therefore, no significant impacts to air quality are anticipated. No further air quality analysis is necessary, a conformity determination is not required, and the Proposed Action would not result in a significant impact to air quality. The No Action Alternative would not result in a change in the number of aircraft operations or air traffic routes; therefore, no impacts to air quality would be anticipated.

Climate

Although there are no federal standards for aviation-related greenhouse gas emissions, the CEQ has indicated that climate should be considered in NEPA analyses. Greenhouse gas emissions were quantified in terms of carbon dioxide equivalent (CO_2e), which was calculated by multiplying the number of gallons of fuel projected to be burned under both the Proposed Action and the No Action Alternative by the CO_2e associated with each gallon of fuel burned. Based on the fuel burn values reported in the EA, CO_2e emissions would decrease slightly with implementation of the Proposed Action compared with the No Action Alternative (38 MT or 0.79 percent less in the first year of implementation (2015) and 43 MT or 0.77 percent less in the five-year look-ahead year (2020)).

Cumulative Impacts

NEPA implementing regulations define cumulative impacts as the incremental impact of the action when added to the impacts of other past, present, and reasonably foreseeable future actions regardless of the agency, federal or nonfederal, undertaking such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. Each of the Study Airports was evaluated for projects which, when considered with the Proposed Action, would have the potential to contribute cumulatively to impacts to the environment. No such projects were identified. The Proposed Action would not result in any direct, indirect, or cumulative impacts to environmental resources within the General Study Area. Accordingly, no significant cumulative impacts would be anticipated.

Mitigation

Thresholds of significance for any environmental impact category would not be exceeded due to the Proposed Action; therefore, no mitigation is being proposed as part of this project.

Other Considerations

The Proposed Action involves air traffic control routing changes for airborne aircraft only. The United States Government has exclusive sovereignty of airspace in the United States [49 U.S.C. Section 40103(a)]. Congress has provided extensive and plenary authority to the FAA concerning the efficient use and management of the navigable airspace, air traffic control, air navigation facilities, and the safety of aircraft and persons and property on the ground [49 U.S.C. Sections 40103(b)(l) and (2)]. To the extent applicable, and as there are no significant impacts under noise or compatible land use, the Proposed Action is consistent with the plans, goals, and policies for the area and with the applicable regulations and policies of federal, state, and local agencies.

VIII. AGENCY AND PUBLIC INVOLVEMENT

Public involvement and early consultation process began with the initiation of the preparation of the EA. FAA distributed an early notification letter to federal, state, and local agencies and elected officials as well as to Native American tribes on June 11, 2014, and placed a legal notice in two major newspapers covering the General Study Area. In addition, a website was developed (www.metroplexenvironmental.com). The FAA provided the web address in the public notices as well as the letters to agencies and elected representatives. Copies of the notification letter, legal notice, and comments received are provided in Appendix A of the EA.

The EA was released on December 5, 2014. The FAA updated the project website to reflect the release of the EA, including making the entire EA available electronically. The FAA published notice of availability of the EA in two major newspapers. FAA sent letters to the previous recipients of the early coordination letters to update them on the status of the project, advise them of the release of the EA (including the project's web address), and solicit comments. The names and addresses of parties who received notification of availability are listed in Appendix A of the EA.

The FAA hosted three (3) public workshops in the CLT OAPM General Study Area on December 9 and 10, 2014, and January 22, 2015. FAA representatives were available at each public workshop to help interested attendees better understand the project. The FAA received 50 comments by private citizens and groups, elected officials, municipalities, local, State, and Federal agencies. A total of 26 comment letters were received during the public comment period. The comments and responses to comments can be found in the attached document, *Public Comment Letters and Responses to Comments and Environmental Assessment Errata*.

IX. THE AGENCY'S FINDINGS

A. The CLT Metroplex Project will ensure the safety of aircraft and the efficient use of airspace. (49 U.S.C. § 40103(b)).

The Federal Aviation Act of 1958 gives the Administrator the authority and responsibility to assign by order or regulation the use of the navigable airspace in order to ensure the safety of aircraft and the efficient use of the airspace. In its continuous effort to ensure safety of aircraft and improve the efficiency of transit through the navigable airspace, the FAA will create or modify standard instrument departure procedures (SIDs) and standard terminal arrival routes (STARs) in the Charlotte Metroplex. The project will enhance the efficiency of the airspace in the Charlotte Metroplex by creating shorter, more predictable ground and vertical paths through the limited airspace in the Charlotte Metroplex. Additionally, this project will allow the FAA to begin to achieve its NextGen goals.

In deciding to implement the Proposed Action, the FAA carefully evaluated both the Proposed Action and the No Action Alternative. The No Action Alternative will do nothing to improve the efficiency of the airspace or address any of the three key causal factors for airspace efficiency. The No Action Alternative would not further the Agency's goal in transitioning to NextGen.

B. This project does not involve the use of any historic sites or other properties protected under Department of Transportation Act Section 303(c), also known as Section 4(f) or under the National Historic Preservation Act.

The project does not involve any physical development or modification of facilities and therefore no actual, physical use of resources protected under Section 4(f) of the Department of Transportation Act or Section 106 of the National Historic Preservation Act would result. The project would also not result in a constructive use of any protected property because it would not cause increases in noise sufficient to impair the value of those resources. None of the protected properties in the General Study Area have a quiet setting as a generally recognized purpose and attribute.

The project would not cause an adverse effect on historic resources listed on or eligible for listing on the National Register of Historic Places. This determination is based on consultation under Section 106 of the National Historic Preservation Act with the State Historic Preservation Officers in each state within the General Study Area.

C. Clean Air Act, Section 176 (c) (1) Conformity Determination (42 U.S.C. § 7506(c)).

The project is an air traffic control activity that adopts approach and departure procedures for air operations. It is presumed to conform under 72 Fed. Reg. 41565 (July 30, 2007). The project would not result in the development of physical facilities nor would it result in or induce an increase in operational capacity in the study area. Detailed analysis was not necessary to conclude that the project conforms with the purposes of the SIP for the State of North Carolina. The project will not cause a new violation of the NAAQS, worsen an existing violation, or delay meeting the standards of the NAAQS in the study area.

D. Findings Pursuant to the Purpose and Need

Upon implementing the Proposed Action, the airspace that serves the Study Airports would include optimized air traffic routings to improve the efficiency of the air traffic routes. Based on the EA prepared for the Proposed Action, this FONSI/ROD is issued. Both the EA and the FONSI/ROD are hereby incorporated into this decision.

X. DECISIONS AND ORDERS

After careful and thorough consideration of the EA and the facts contained herein, I find that the Proposed Action is consistent with existing national environmental policies and objectives as set forth in Section 101 of National Environmental Policy Act and other applicable environmental requirements and will not significantly affect the quality of human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of National Environmental Policy Act. Therefore, an environmental impact statement will not be prepared.

I, the undersigned, have reviewed the referenced EA including the evaluation of the purpose and need that this Project would serve the alternative means of achieving the purpose and need, and the environmental impacts associated with these alternatives. I find the Project described in the EA is reasonably supported and issuance of a finding of no significance is appropriate. Therefore, an environmental impact statement will not be prepared.

I have carefully considered the FAA's statutory mandate under 49 U.S.C. § 40103 to ensure the safe and efficient use of the national airspace system as well as the other aeronautical goals and objectives discussed in the EA.

Accordingly, under the authority delegated to me by the Administrator of the FAA, I approve the operational changes as described in the proposed action alternative and direct that actions be taken that will enable implementation of the CLT OAPM Project.

Approved: _____ 6/03/15

Elizabeth L. Ray
Vice President, Mission Support Services
Air Traffic Organization
Federal Aviation Administration

Date

RIGHT OF APPEAL

This FONSI/ROD constitutes a final order of the FAA Administrator and is subject to exclusive judicial review under 49 U.S.C. § 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filing a petition for review in the appropriate U.S. Court of Appeals no later than 60 days after the order is issued in accordance with the provisions of 49 U.S.C. § 46110. Any party seeking to stay implementation of the ROD must file an application with the FAA prior to seeking judicial relief as provided in Rule 18(a) of the Federal Rules of Appellate Procedure.